Model Question

Tribhuvan University
Institute of Science and Technology
Central Department of Statistics

Time: 2 Hours   **Full Marks: 100**   **Pass Marks: 35**

Attempt all questions, each question carry one mark. Notations and abbreviations have their usual meanings. Blacken the correct answer in the given answer sheet.

1. Formula for the confidence interval for the ratio of variances of two normal populations involves the value of :
   a) Chi-square distribution   b) F- distribution
   c) t-distribution   d) None of the above

2. Countries in the fourth stage of transition in the demographic transition theory are
   a) Not yet industrialized
   b) In the postindustrial economy
   c) Established as industrialized nations
   d) Entering the initial phase of industrialization

3. A person runs the first one fifth of the distance at 20 km/hr and next half at 30 km/hr and the remaining at 10 km/hr. Find his average speed.
   a) 300/17 km/hr   b) 320/17 km/hr   c) 17/300 km/hr   d) none

4. If population correlation coefficient between X and Y is 0 and $E(X - Y) = E(X) - E(Y)$ then $V(X - Y)$ is
   a) $V(X) - V(Y)$ b) $V(X) + V(Y)$
   c) $V(X) + V(Y) \times 2\ COV(X, Y)$ d) None of above

5. A listing of the possible outcomes of an experiment and their corresponding probabilities is called
   a) Random variable   b) Contingency table
   c) Probability distribution   d) Frequency distribution

6. If two observations are 20 and -20, then their geometric mean
   a) 10   b) 0   c) Does not exist   d) None of the above

7. It was claimed that the average life of dry battery cell is 60 hours. A large sample of 441 cells had mean life 40 hours with a variance of 81 hours. Do the data ascertain the claim at 5% level of significance?

   a) The claim is rejected   b)The claim is accepted

   c) No decision is possible   d) None of the above

8. The best measure of central tendency for average rates is
a) Mean   b) GM   c) Mode   d) Median

9. To test a hypothesis about proportion of items in a group, the usual test is:
   a) t-test   b)F-test   c) Z-test   d)None of the above

   and so on…………………………………

Note:

1. M.Sc. entrance examination is based on B.Sc. syllabus.
2. There are 100 multiple choice questions.